

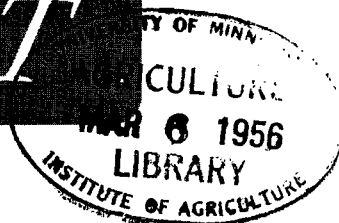
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UNIVERSITY OF MINNESOTA
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**FACT
 SHEET**

4
 ENTOMOLOGY

NO. 2



European Corn Borer Control with Granular DDT

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The corn borer can now be chemically controlled by the use of granules as well as sprays and dusts. A recommendation by the North Central States Regional Technical Committee on Entomology has opened the door to the use of granular formulations of DDT for corn borer control.

This sheet contains information on the type of granular material to use and how to apply it. For information on the application of DDT with sprays and dusts, see North Central Regional Publication 22, "Recommendations for Insecticidal Control of the European Corn Borer," and Entomology Fact Sheet No. 1, "Use of Insecticides to Control European Corn Borers on Sweet Corn."

Formulation and Carrier

The formulation should contain 5 per cent DDT on a carrier of one of the following: granular Attaclay RVM-AA type, tobacco base, or KWK bentonite. The most effective particle size range is a 30- to 60-mesh granular.

Application Rate

Ground equipment: use 5 per cent DDT at the rate of 15 to 20 pounds per acre.

Aircraft: use 5 per cent DDT at the rate of 20 to 25 pounds per acre.

Basis and Timing of Treatment

On field corn, make one application for first brood treatment when 75 per cent of the plants show evidence of recent feeding in the whorl leaves (leaves in the center of the plant before tasseling). On hybrid seed corn or on high-yielding field corn, two applications will be necessary to give effective control of the first brood. Make the first application when 50 per cent of the plants show leaf injury and the second when the percentage is up to 75 to 90.

You may use granular insecticide on second-generation corn borers, but don't expect the application to be as effective as on the first brood. Make the treatment at first hatch if you find 100 egg masses or more on 100 plants.

On sweet corn you can control the first brood of corn borers by using granular DDT as soon as you find 25 egg masses on 100 plants. Repeat the treatment at five- to seven-day intervals. At present there is no research to indicate the value of using granular insecticides for second-brood corn borer control on sweet corn.

APPLICATION EQUIPMENT

Ground Equipment

You can apply granular insecticides to corn with a conventional seeder

hopper with all outlets closed except for three over the corn row. Individual metering hoppers, such as those used for distributing fertilizer, are also satisfactory.

However, regular row crop dusters are not suitable for applying granulars because of erratic distribution -- sometimes the DDT packs or bridges and other times it comes out too fast.

For best results, release the granular material in a band 12 to 14 inches wide approximately 8 to 10 inches above the whorl of the corn plant. In this way the dose will be adequate even when the distance between rows of corn varies.

Aircraft

The best equipment for applying granular DDT by airplane is that designed for aerial seeding of rice. Actually, most air seeding devices are better than conventional crop dusting equipment.

To get the best distribution of granules, airplanes should fly 35 to 40 feet above the ground. Since air equipment varies quite a bit, check the actual swath width for rate and pattern of application to be sure it is covering the right area.

Research on the value of aircraft application of granulars has not been very extensive, and just how valuable this method is remains to be seen. Again, the effectiveness on the second brood of corn borers would not be expected to be as great as on the first brood.

FOLLOW THESE PRECAUTIONS

As in the case with any application of DDT to corn, you must take precautions. Experiments have shown that practically no DDT reaches the kernels inside the husk. Ears from treated field or sweet corn are completely safe for either human beings or livestock to

eat. And present evidence shows that DDT left on the plants will not harm livestock that eat them, providing the insecticide has been used strictly as recommended.

Some of the DDT, however, may appear in the milk and in the body tissues of the animal -- especially the fat. Until we know more about the possible ill effects to man from taking in DDT in milk, do not feed DDT-contaminated plants or any parts of these plants to dairy animals. Also, do not feed DDT-contaminated plants to animals for at least 90 days before slaughter.

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use 590 DDT rate 7.5 to 20 lbs/acre